

CLEAN COPY OF ALL PENDING CLAIMS

SUB C17

B1

35. (Amended) A method of fabricating a semiconductor structure, the method comprising the steps of:
providing a semiconductor substrate; and
providing on said substrate a graded region incorporating compressive strain to offset tensile strain arising during processing.

SUB C27

B2

39. (Amended) The method of claim 35, wherein the graded region comprises Si and Ge graded to an increasing concentration of Ge, and the step of incorporating compressive strain comprises decreasing a temperature at which the graded region is grown as the Ge concentration increases in said graded region.

40. The method of claim 39, wherein said step of incorporating compressive strain comprises growing alloys of $\text{Ge}_x\text{Si}_{1-x}$ from $x = 0$ to about $x \approx 35\%$ at 750°C , growing alloys from $x \approx 35$ to about $x \approx 75\%$ at between 650°C and 750°C , and growing alloys greater than 75% at 550°C .

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41. The method of claim 35, wherein said step of planarizing comprises chemical-mechanical polishing.

B3

42. The method of claim 35, wherein said region is partially relaxed.

C

43. The method of claim 35, wherein said region is fully relaxed.